

When a baby died last week,
 One she used to love,
 Little May's sweet voice could speak
 Comfort from above.
 "Baby isn't dead," they say;
 "Only gone to little May."

So we thank God every day
 For His precious gift,
 Never taken quite away,
 All its fragrance left,
 And to be restored one day,
 Ours for ever, little May!

RED SNOW.

OME people will laugh at the idea of the roseate hues observed on the snowy Alps of Switzerland, on the Apennines, Pyrenees, &c., being due to anything but sunrise or sunset effects. Do not travellers know these well? Nay, have not some even travelled to see them? Have not artists tried to make them, fleeting as they are, enduring, by painting? Have not poets striven to describe them in verse?

True enough, but not the whole truth. There are times when the flush upon mountain snows, instead of being a passing effect, remains stationary, with no condition of the sky to account for it, and the cause of this phenomenon was for a length of time a puzzle.

That the sky occasionally rained blood, indeed, was an old notion of what may be called the fabulous ages of natural history; but, as men's minds awoke further and further to the necessity of strict investigation, this delusion among others passed away. It is on record that in 1601 some red patches left (as it was said) by a shower that fell at Aix, in France, were examined by a naturalist (Piereso by name), and discovered to be caused by insects; and the same result followed the examination of another supposed shower at Schonen in 1711.

People were pretty well cured, in fact, of talking of "showers of blood" when, in 1760, one M. de Saussure first noticed the appearance of red snow on Mount Brenner, in Switzerland; but it was still con-

sidered as a *fall*, though a fall of red snow instead of blood, its coming down red from the skies being a fact taken for granted.

There are numerous records consequently of red snow showers. One is spoken of as having occurred *between the 5th and 6th of March*, 1803, at Tolmezzo, in Friuli; another more remarkable one *in the night between the 14th and 15th of March*, 1813, in Calabria, Abruzzo, Tuscany, and Bologna (therefore along the whole chain of the Apennines). Same year, on the *15th of April*, there was one on *the mountain Toreal in Italy*.

The Italian "Giornale di Fisica" for November and December, 1818, describes red snow which fell on the Italian Alps and on the Apennines *in March*, 1808, when the whole country round Cadore, Belluno, and Feltri was covered *in one night* to a depth of several inches with a rose-coloured snow, and at the same time (*night in March*) another fall was noticed on the mountains of Veltelin, Brescia, Krain, and Tyrol. These particulars are mentioned in Professor C. A. Agardh's "Memoir on the Red Snow brought from the Polar Regions," and Dr. Greville supplies some other instances. In one where the red snow was found on the Alp Bobonas, three hours' journey from Bêx, at a place called "Les Planurds," the red colour lay in distinct stripes from one to twenty feet long, and from three inches to four feet broad, or formed roundish spots from five inches to three feet in diameter. We wonder has any observing reader observed the words we have put in italics in the accounts of falls of red snow taken from Agardh's "Memoir"? They were so printed to attract attention to two noticeable facts. One that these showers always took place early in the year—viz., in March and April; the other, that they always fell in the night—in other words, that *nobody ever saw them fall*.

The last circumstance is easily accounted for, the truth being that *no such falls ever took place!* Whence, then, came the appearances, and why at one time of the year only—viz., in March and April?

The explanation is as follows:—

Red snow is caused by a microscopic freshwater alga, which vegetates just below the surface of the snow. This tiny organism—only one-thousandth of an inch in diameter, a globule smaller than those of homœopaths—is a transparent, colourless cell or sac filled with red colouring matter (endochrome), which of course shines through. When the endochrome is at maturity (what one may call *ripe*) it separates into four or eight portions, each of which grows a transparent

cell for itself like the first. These are young plants, and they go on growing until the parent cell can no longer hold them, but bursts, and lets them out, each to begin a similar process of life for itself, the endochrome in each subdividing as before, and the young cells outgrowing and bursting from their old home. Thus the multiplication of this mite of a plant goes on at an enormous rate, and its powers of reproduction are so prodigious that it constantly spreads over miles of snow in masses sufficiently thick to be visible at great distances, colouring even far-off mountain sides "celestial rosy red."

In his Arctic expedition Sir James Ross, sailing along the coast, saw the distant cliffs of snow painted red for miles, landed to discover the cause, and found the snow full of *Protococcus*. He says, too, that he saw a mountain eight English miles long and six hundred feet in height covered by it, adding that it was found to penetrate in some places to a depth of ten or twelve feet. This last fact is, however, disputed. Another traveller affirms it never extends beyond one or two inches downwards. At any rate it is very plainly and extensively to be seen in the polar regions, and now the question arises, why, as the plant vegetates on the snows of Switzerland, &c., it is not more plainly and more extensively seen there than it certainly is, for probably not one in a thousand of Swiss travellers ever observed or heard of it?

The truth is, it is only visible anywhere under certain favourable conditions of atmosphere. The plant lies upon a colourless jelly just below the surface of the snow, and how much of it is seen depends a good deal upon how much of the surface snow gives way under sunshine or relaxation in the atmosphere. Too little warmth will not uncover it, too much will carry it away. This opinion is confirmed by the dates of the supposed red snow falls to which we called attention before, namely, in March and April, just when the first yielding of the snow begins, and before it has melted sufficiently to carry the layer of *Protococcus* also away.

With regard to its colour, it varies with circumstances (Agardh says *light* affects it and deepens the tint); and surely the *depth* of the layer must affect it. Dr. Harvey visited Switzerland (Monte Rosa) in the autumn, and found the plant tinging the snow no deeper a hue than French grey. Was not this the result of a small sprinkling of red among large masses of white? One thing is certain, viz., that all who

have seen it under the microscope know it is unmistakably bright red, like tiny garnet balls. A young tourist two years ago saw what he considered to be it in patches as if blood had been spilt. Unluckily, not having a bottle in his pocket, he failed to bring some home, which he might easily have done had he used a leaf, or bit of paper, or even a handkerchief, as when the snow melts it leaves the protococcus as a deposit. And the plant has this peculiarity, that with it to dry up is not to die. Dr. Greville thinks it may possibly revive after having been preserved (torpid) for an unlimited period; an opinion which we are prepared to confirm by personal experience. But this brings us to the red snow plant in its domesticated state, of which more hereafter.

We conclude this part of the subject with the last paragraphs of Professor Agardh's "Memoir":—

"If my views of this body, which may be denominated the *Flower of the Snow*, be correct, our admiration will only receive a new direction. If we cease to believe that Algae or Infusoria descend in showers, we must admit that the snow of a whole mountain may be covered in the course of a few days by a red vegetation, strongly contrasted with its own white hue. We must admire the activity of that Power which is so universally diffused, filling the bosom of even the winter snow with life and vegetation.

"It is generally known that the colours of plants become duller and paler in proportion as they are withdrawn from the influence of light, and that the fields of the north boast of few bright hues, while the tropics abound with all the splendour of colour. Yet the north in its alps approaches the source of light, and by means of its snows condenses the power of its beams, so as to produce the same effect as the warmest summer.

"Nature, in all her forms, ever different, ever changing, is in one thing only the same, ever new and equally wonderful."

Editor.



AMONG THE LAMBS.

 HEN I had stayed about three months on the scene of my last adventure, the lambing season began; so I was sent down with Jem and another man to take charge of two thousand ewes, at a place on the coast where there was plenty of grass and water.

We were to have thirty shillings a week and our rations, or "tucker," and a shilling a head for all the lambs over eighty per cent. that grew up to a certain age; so that supposing there were ninety lambs for every hundred ewes, we should get, each of us, ten pounds extra for the whole flock. However we got more than that, as you will see.

The reason of paying men in this way is that it becomes their interest to look after the lambs; otherwise, many shepherds would be careless, and lose a great many.

There is sometimes great temptation to be careless, too. For example: supposing that I come home tired and dirty in the evening (for lambing is hard work), I get a good wash, have my supper, and then lie down luxuriously on my blankets; suddenly, there floats out of the bush a plaintive bleating, which I know too well—two or three lambs have been left behind in the long grass.

Now, if I am a conscientious shepherd, I shall get up and go out, tired as I am, and try to fetch those lambs in; and if they are like the ordinary run of Australian lambs, this means perhaps an hour's hard work.

I have first to find them; this may take a quarter of an hour. Suppose there are two of them; now, if I can steal cautiously up and grab them, one in each hand, well and good; but the chances are that I fail in this design, and they are off like deer, most likely running different ways. I know very little about English lambs, but I know that it is impossible to drive an Australian lamb; it would be far easier to drive an elephant, and as to catching one, I have never seen the man who could do it, when the little creature meant running.

I must, therefore, either tire these two out, until by chance they run into a corner, or I must take out about a dozen ewes from the yard, and drive all back together.

I have seen strong men reduced to a ridiculous state of exhaustion and vexation by the vagaries of half a dozen lambs, which set them at defiance. I used to have a beautiful Sootch collie once, which was very

clever at catching lambs, and would carry them any distance without hurting them, but she was poisoned, poor thing !

Now, I say that there would be a great temptation to leave those two lambs to their fate ; but, supposing this to happen every night, which it usually does, there would be a clear loss of at least two shillings.

I have said that lambing is hard work, and will now explain what I mean when I say so. There were about seventy or eighty new lambs every day, and about the same number every night. The first thing in the morning we had to collect all the lambs of the night before, find their mothers among the rest in the yard, and put them all in a place by themselves. Very often we found lambs whose mothers had deserted them. We had to provide mothers for these by penning a ewe and a lamb up together between three hurdles until they took to one another.

In doing all this there is of course no end of running about and pulling and hauling in the yard. As soon as this work was finished, two of us went out with the main flock, while the third remained to look after the young lambs which could not follow. The grass was long, and in great tangled bunches, and as soon as the sun began to get hot, the lambs of two or three days old would creep under these tufts and go to sleep there, and there was great danger of missing some of them on the way home. Every now and then we came to a new lamb, with the mother standing over it, usually. Sometimes, if the mother seemed inclined to leave her lamb, we would tie her up to a tree. If the mother had left it altogether, we had to find a mother for it ; so this was much harder work than mere shepherding, because we had to be always on the look out or doing something. The evening's work was the worst, though. We had first to find and wake up all the lambs which had been asleep in the long grass. We used to take green boughs and beat the ground carefully. Then some of the lambs were quite strong, and would keep galloping and racing about, and ewes would lose their lambs and run back into the bush after them. Besides all that, we had to collect all the new lambs and bring them back. As we found them during the day we used to mark each of them with ruddle, so that we might know them again. It was very hard work getting them home as we generally had to carry them, and the stupid old mothers would keep running back into the bush to look for them. Sometimes we had to trail them along the ground before their mothers to make them follow.

I often carried as many as eight or nine lambs at one time, and had to make about as many journeys backwards and forwards. Our work was seldom over before nine or ten o'clock in the evening—long after dark. This kind of work lasted about three weeks, and by great care and hard work we managed to make our lambs come up to ninety-seven per cent., so that we had a pretty good "cheque" to receive.

One of my companions now went away, as three men were not required any longer. Jem remained with me, as it was not considered safe for one man to remain, on account of the blacks, who were very numerous. It is not always that the employers, or "squatters," as they are called, think it worth while to pay an extra man, and I had once or twice been alone in more dangerous places than this.

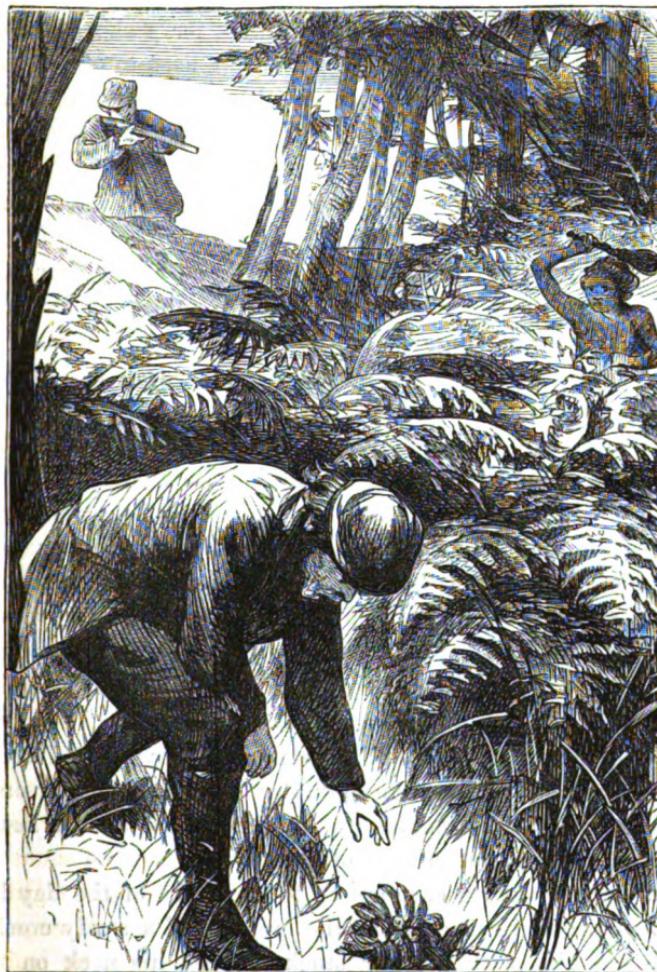
The black fellows on the coast are generally stronger and more dangerous than those in the interior, because they get better food, and plenty of it. They get plenty of fish, rock-oysters, and sea-birds, while some tribes have to live chiefly on snakes, with an occasional emu, opossum, or kangaroo. When these fail, they have to eat ants and grubs.

The country on which we fed our sheep consisted of downs sloping towards the sea, with plenty of grass growing on them. These downs were frequently intersected by beautiful tropical creeks with sweet running water, and their banks lined with palms and tree-ferns. I was very near losing my life in one of these creeks one day. I had gone down to gather wild bananas, which grew in great plenty, while Jem stood on the bank above with his carbine.

I was stooping to pick a fine bunch of fruit, when something whizzed by my ear so close that it stirred my hair, which was rather long at the time. At the same moment I heard a shot above, and a shout from Jem. I ran up, and Jem told me that he had just caught sight of a black fellow and had fired at him, but he plunged down among the bushes. On examining them we found traces of blood; he had evidently been hit.

There was no more fear of Mr. Black for the present, so I went back to the place where the bananas were, and on searching found, not many feet from where I had stood, one of the black fellow's heavy mallets or clubs. It was beautifully carved; the handle was thin, and the head was the shape of a very large pear, scalloped all over so as to form projections like teeth. It was a murderous weapon. "Three inches to the right," I thought to myself, "and there would have been an end

of me." I suppose the 'rascal had been flurried at the sight of Jem, for a black fellow seldom misses his aim at thirty or forty yards.



You may be sure that we kept a pretty good look out on that day, and in the evening by the fire we naturally had some "black-fellow yarns" together. Jem began :

JEM'S TALE.

"I and my mate were shepherding at a station on the Lower Burdekin, where the blacks are very 'notorious' (colonial word for troublesome; I have often heard an old hand say to his sheep, 'Oh,

you notorious wretches'). We were in a double hut, and had a flock of sheep apiece. There was a great deal of scrub on the run, and the darkies used to lurk in this, and sometimes they used to send out a gin, who would walk up quite quiet and ask for a sheep—'Sheepie, sheepie.' Well, whenever they came to me I used to give them one, for I knew that if I didn't they would kill me the first chance they got; and old Tomkins, the squatter I was with, had told me that I had better. Now my mate was a 'contaminated' sort of chap (contaminated is used to mean stubborn or wrong-headed), and he declared that he would never give in to a set of niggers. So one day an old gin came out to him, saying, 'Sheepie, sheepie,' and he shot her with his revolver. There was no great harm in that, for the gins are far worse than all the rest of the niggers put together, and cause most of the murders. I was very angry with him for being such a fool, and we had some words in the hut, and in the morning he went off in the sulks. His last words were, 'Now then, Mr. Skulker, we'll see whether a white man is not better than a lot of niggers.'

"I went out in the opposite direction, and everything went on right till the evening; as I was coming home with the monkeys (sheep), I fancied that my flock was getting larger, and presently, sure enough, there were sheep pouring in from all sides. I guessed what had happened directly, but I got home with the sheep as fast I could, scarcely hoping to see my mate any more. He did not come back, and I knew that I could do nothing that night.

"Early the next morning I left the sheep in the yard, and went into the head-station. All the men volunteered to turn out at once, of course; and at first old Tomkins wouldn't let them, but at last they struck work and went out in spite of him.

"When we got out we soon got on to his tracks of the day before, and followed them till we came to the crossing of a sandy creek, and here we found him, with a spear stuck through his neck on to the ground; his loaded revolver was lying by his side—they had not given him time to fire it.

"Well, I knew a broken-down swell, a college chap, like yourself, down in the township, and I got him to take my account of this and put it into the right words for the newspaper; but the publisher said he couldn't put it in—it would prevent men from going up the country, and make him unpopular with the squatters. That is how my mate was killed by the blacks."

With talk of this description the evening passed, until Jem said it was "a fair thing," meaning that it was about time to go to sleep.

It was rather a strange thing that, though Jem and I got on so well together generally, we always used to have differences of opinion, ending in what Jem called a "civil growl," when we were out together with the sheep. Somehow we could not help it; sometimes we wanted to go different ways—each blamed the other for bad management. In short, we "couldn't exactly hit it together," so we determined at last, like the two Roman consuls of old, to take command on alternate days.

But we soon found that this did not prevent us from being together; for, usually, where one of us happened to be the other used to stroll, only now there was no quarrelling; the responsibility was no longer divided—one of us each day was a gentleman at large. If we had only learnt that lesson which is so hard for us all to learn, how to give way to others in matters of little import, we might just as well have gone on without any change; as it was, we had done exactly the same thing by a sort of compromise. Every day, as the lambs grew older, they grew more mischievous and troublesome, and I am afraid I very often used to lose my temper sadly; for, supposing that I wished to drive the sheep in one direction, two or three hundred lambs would be sure to go in the other; or they would go racing round at ten miles an hour, galloping and kicking up their heels, and then off they would dart into the bush; and if once they lost sight of the flock, it was impossible to drive them back—the only thing was to drive the flock to them. I have sometimes been more than half an hour trying to get twenty or thirty lambs in at the yard-gate, they all the time jumping and capering just as if it were the greatest fun in the world. Oh, with what fervent disgust and annoyance have I watched the playful movements of those innocent animals, and have finally gone to my long delayed supper with a positive feeling of hatred towards them! It seems funny now that I should have ever allowed myself to be annoyed or disturbed by such trifles. Trifles call I them? The most severe though transient troubles I have ever experienced have been in connection with lambs. Meantime, the limit of this paper is almost reached; but hereafter I doubt not you will hear from me again on this and other subjects.

GEORGE CARRINGTON.